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ABSTRACT

Discussed is an oral reading procedure for children with reading problems which assesses a reader's competency through an analysis of comprehension evidenced by meaningful versus non-meaningful alterations to the reading text. It is explained that this analysis indicates that the poor reader's needs frequently may be at the syntactic and semantic levels, rather than the word level. Examples are given of five narratives coded for type of textual alteration. Described are potential misplacements of readers in material below their conceptual needs because of word error rather than syntactic and semantic error counts. (CL)



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ASSESSING READING COMPETENCY: A PSYCHOLINGUISTIC PERSPECTIVE

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Normal reading seems to begin, proceed, and end in meaning, and the source of meaning-fulness must be the prior knowledge in the reader's head (Frank Smith, Presentation to IRA Convention, May 12, 1976).

Reading, Language, and Meaning

Within the past ten years a broad spectrum of researchers-linguists, psychologists, dialect and second language experts -- as well as reading and learning disability specialists, have concerned themselves with reading instruction and processes, giving particular attention to language. Reading, obviously, is an offspring of language, composed of its unique visual and motor aspects, and containing those components which make up language itself. Kenneth Goodman has stated that "to understand how reading works one must understand how language works" (Goodmar, 1972, p. 144). A definition of language, therefore, which seems appropriate to a discussion on reading comes from Lamb, who has defined it as "the interaction . . . of the phonological, morphological, lexical, syntactic, and semantic elements of a communications system" (Lamb, 1972, p. 190). If, as a corollary, we add Frank Smith's statement that "children learn to read by making sense of written language" (1976), we begin to have a perspective of reading as a process involving an active search for meaning within t multicomponent system of language.

To quickly understand the elements of language referred to by Lamb, let us look at several sentences:

- 1. Billy ran to the new store.
- 2. Mary ran the larger store.



. .

- 3. There is a run in her stocking.
- 4. There was a run on the market.
- 5. The new player drove in his first run.
- 6. They had a run-in with their landlord.

First, each of these sentences constitute a phonological system—a set of phonemes (sounds) so arranged as to give meaning to an English-speaking (or English-reading) person. That is, we recognize the "sounds" as English. Second, these arranged sets of phonemes——/r//a//n/—comprise the lexical system or lexicon, whose meaning is derived from their relationship with other lexemes (words), as in the example of "ran/run."

- 1. . . . ran to the
- 2. . . . ran the
- 3. . . a run in her stocking.
- 4. . . a run on the market.
- 5. . . drove in his fifth run.
- 6. . . . had a run-in

The third component is termed <u>morphological</u>, where the lexical item changes its phonology to extend the original meaning or meanings. These "extenders" signal plurals, tense, comparisons, and derivations. A set of morphological changes can be seen in the word "friend."

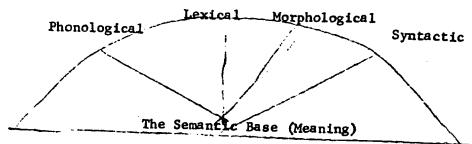
friend friends (noun)
friendly friendlier friendliest (adjective)
befriend befriends befriended befriending (verb)
friendship (noun)
friendliness (noun)
unfriendly (adjective)

A fourth component might be described as a set of grammatical rules which determine meaningful lexical arrangements (Chomsky, 1965). Native or fluent speakers fully internalize these rules and recognize when they have been violated, often simply stated by speakers as "it doesn't sound right."



The final element, semantics, constitutes the raison d'etre of language, and can be simply conceived of as meaning. The four elements discussed above are merely the major components by which meaning is conveyed.* Diagram 1. illustrates how meaning serves as the base of language, and is communicated by the other elements.

Diagram 1. Major Components of Language



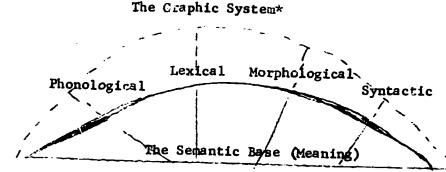
Language and Writing

Writing (which is the obverse of reading) can be defined as the graphic system which codes meaning through the symbolization of the phonological, lexical, morphological, and syntactic components. It can be thought of as a "supralingual" representation, or a system superimposed upon the already existing spoken system. Diagram 2. illustrates this concept.

^{*} In fact, there are additional elements for conveying meaning, termed "metalanguage" or "paralanguage," more commonly called gesture and intonation, and which can also include "posture."

 $\hat{\gamma}^{\frac{1}{2}}$

Diagram 2. The Graphic Imposition on Language



A simple sentence will show the interrelationship between the graphic system and language.

"Were the Smith children cared for by the Town family?"

Notice the semantic power of the capital letter in "Town," signalling a family name, rather than a place. Or there is the well
known grammatical power of the question mark. Without this mark,
we would have both syntactic and semantic alteration:

"Were the Smith children cared for by the Town family, the tragedy would have been averted."

Understanding Reading

In his insightful discussion of the relationship of phonology to reading, Chomsky points out that

> the teacher of reading is not introducing the child to some new and obscure system that is only distantly related to the spoken language he has, to a substantial degree, already mastered. Rather the teacher is



^{*} The "graphic" system consists of 1) letters to represent "sounds" (phonology), proper names (semantics), sentence boundaries (syntactic), and emphasis (semantics); 2) punctuation markers to represent sentence boundaries (syntactic/semantic) and emphasis (:); 3) spacing to demark wend, sentence, and paragraph boundaries (lexical, syntactic, semantic).

engaged in bringing to consciousness a system that plays a basic role in the speken language itself. (Chomsky, 1970, p. 4)

If understanding language guides us in understanding reading, then assessment or evaluation of a child's reading ability (and subsequent instruction) must take into account the child's use of language during the reading act and his search for meaning.

The analogy of speech will be used to clarify this idea. In speaking we assume communication has resulted when the receiver responds to the sender, not be mimicking or parroting, but by nodding, questioning, and responding with further statements.

When the receiver cannot comprehend the sender's ideas (semantics), structural organization (grammar/syntax), or lexicon (use of vocabulary), communication is hindered, and the receiver must request explication or abandon the interaction.

Reading, too, involves similar sender-receiver interactions. As you read (in normal silent reading) you do not "say" the author's words, but rather process and respond, accept or reject, and anticipate meaning. If the meaning becomes unclear, you regress to restate or confirm (Goodman, 1970; Smith, 1971).

In assessing reading ability we have frequently judged readers as "good" or "poor" on their ability to smoothly or fluently reproduce narrative. Fluent reading is "good," and poor reading is measured by the quantity of non-fluent behavior. The number of "non-fluent" items evidenced by the reader constitutes the degree of difficulty the passage or text has for the reader (Gray, 1963; Gilmore, 1951). With fluency as a criterion, we have often



determined reading competency at the level at which the reader has made no (or extremely few) "textual alterations" or "misreadings," on the assumption that correcting, hesitating, repeating, or even substituting are indicators of lessened ability to derive meaning. Furthermore, in many evaluation instruments, all deviations from the original text have been considered as equally detrimental to the reading performance.

Through the research of Kennech Goodman and his associates, there was a major shift in the theory of assessment, so that emphasis was placed on the quality of the textual deviations in contrast to the quantity. Goodman termed these deviations "miscues," describing them as "unexpected responses" which occur because the reader "is processing information in order to reconstruct the message the writer has sought to convey" (Goodman, 1972, P. 147). A brief comparison will illustrate the difference between a quantitative and qualitative analysis. In a quantitative analysis, deviations or misreadings from the original text are characterized by "types" and viewed as "errors."

substitution of word omission of word	
insertion of word	
reversal of word	word errors
repetition of word	
hesitancy on word	
word-by-word reading	rate errors
punctuation omissions	
or insertions	punctuation errors

Errors



Type Category

These "errors" are then tallied and a specific number (frequently five) constitute a ceiling, indicating the grade level at which the reader can profit from instruction (instructional level). In the Gray Oral, for example, each response which deviates from a perfect oral rendition is counted as an error of equal weight, e.g., "the happy boy" read as "the very happy boy" is an error equal to the rendition of the text as "the happy box."

In the analysis system developed by Y. Goodman and Burke (The Reading Miscue Inventory), each deviation (miscue) is evaluated in relationship to the meaning in the original text. The closer the miscue is to the original syntactic and semantic structures, the closer the reader comes to potentially comprehending the text. Their taxonomy of miscues concerns itself with analyzing the deviations on the basis of "similarities"—similarity at the phono-graphemic level, the grammatical function level, and the semantic level.

An Analysis Based on the Alteration of Meaning

It is well known by now that good readers go directly from print to meaning without the direct mediation of the author's words (Smith, 1971, 1975). That is, we do not "say" the author's words, no differently than we say a speaker's words before we respond. From this understanding, and from the research in miscue analysis, reading clearly emerges as a language-centered process in contrast to a "word" process. With this shift in emphasis, the question for the teacher who evaluates a child's reading becomes "What evidence has the child (reader) given to indicate that s/he will be able to derive meaning



from the text? Although there are several methods by which we might make this determination (silent reading with questions, cloze procedure, individual reading conferences), we shall focus on oral reading, which can yield important information about the child's ability to respond to the lexical and syntactic organization as s/he attempts to make "sense" of a parrative.

The purpose of an oral reading assessment - We assess oral reading mainly to get some measure of the reader's potential for comprehension at various levels and with different types of written material. We might assume that if the reader can respond to the ext either with an exact rendering or with synonymous alteration, s/he has received the information necessary to remember, reconstruct, or interpret the written message. That is, s/he can potentially comprehend the parrative. The more complete evaluation of memory, reconstruction, or interpreting can then be consigned to the "silent" reading tasks with appropriate questions.

Alteration to text - When the aim of the teacher is to determine the child's comprehension potential based upon oral reading responses, she must be familiar with the types of responses that occur. We shall call responses which are not an exact rendition "alterations to the text," and they fall mainly into four categories:

1. The correction category - The reader says a word, phrase, or sentence, then quickly "perceives" that s/he has misread and corrects. Sometimes the initial reading has been correct, but through some sense of uncertainty the reader repeats, as if to confirm.



- 2. The lexical category This alteration occurs at the word level, where the reader comes upon an unfamiliar word. There can be unfamiliarity because s/he cannot organize the letter arrangement into a meaningful sequence or the word itself is not meaningful to the reader. In these cases, s/he either mispronounces the word or skips over it, or occasionally substitutes his own word. A different lexical alteration can occur when the reader omits a word because s/he has appeared to "overlook" it. In these latter alterations, the reader is likely to maintain the grammatical structure, although s/he may lose information from the text.
- 3. The grammatical category A third category results when the reader omits, adds, or in some way changes the grammatical structure, yet maintains the basic lexicon. This occurs when there are alterations in plurals, tense, possessives, comparatives, or when there is substitution of function words (the, of, which, who, that, etc.) which change or destroy the grammaticality of the text.
- 4. The semantic category The fourth major alteration is at the semantic level where the reader substitutes meaningful words, grammatically slotted, which, however, change the author's intent. Another form of semantic change, which may alter grammaticality and may change the author's intent, is the alteration of punctuation or the inappropriate "chunking" of phrase units.



Examples of textual alterations - In the following section, we have indicated the textual alterations made by an eleven year old boy, Tom, reading a series of graded paragraphs (grade 1.5 through 5.5 based on a Fry Readability Formula). The text s, noted as A, B, C, D, E, are marked to show the alterations, and a code for the markings precedes the first narrative.



Examples of Correction, Lexical Grammatical, Code for Marking and Syntactic Alterations Correction Alterations 1. Alteration successfully corrected "were driven out of England" 2. Repetitions of correct reading "when the French" use wavy line Lexical Alterations 3. Lexical alteration of a word graphemically or phonemically "William the Conqueror" write in substitution 4. Lexical omission "related to the language" circle omission 5. Lexical insertion "French became the Language" use carat 🔥 Grammatical Alterations 5. Alteration of inflections (plural, tense, possessive, comparative) "Soon many French words were entering the English language" put in substituted form, circle

7. Alteration of grammaticality

"But the words which the English had borrowed"

put in substitutions, circle omissions

omissions

Semantic Alterations
8. Substitution of meaningful words

"the French conquerors were driven out of England"

put in substitutions, circle omissions



- 9. Inappropriate use of juncture (punctuation and phrasing)
 - s. "the native people used Frencis Soon many words . . . "
 - b. "hundreds of other French words also entered the English language"

circle omissions connect words, a fatitute capital lecter

indicate inappropriate pauses or hesitations

13.

A.

Data: Number of words Number of cloze items 12 Type of passage - story Grade level - 1

The Rabbit and the Cat

'Where are you goir

white rabbit to the cat.

"I am going to get something good to eat," said

"Will you help ma?" the cat.

"Yes, I will be happy to help you." We will look for carrots to eat."

"No! No!" said the cat.

I want a pretty little mouse."

"Too bad, Cat. I don't think we can help each other. But I was glad to meet you. Goodbye."

14. B.

Data: Number of words 148
Number of cloze items 27
Type of passage - fiction
Level - 2

The Twins

Jim and Tom were twins. Sometimes they were happy.

Sometimes they we not. They always had their birthday

parties on the same day. They always got the same presents.

They always played with the same friends.

"I wish we didn't always do the same thing,"

said Jim.

"Mom," Jim asked one day. "Why must we always do Anthing?"

'Why can't we do some things alone and some things together?" asked Tom.

"You are right," said Mother. "I will think of something."

The next day the twins found two letters in their room. One was a letter to Jim. It said,

Dear Jim,

Please come to Tom's birthday on Saturday.
You can bring three friends.

Love,

Mom

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15. B.

There was also a letter to Tom which said, Dear Tom,

Please come to Jim's birthday party on Sunday. You can bring three friends.

Love,

Mom



C.

66 to 100

Data: Number of words 156
Number of cloze items 26
Type of passage - nature/animal
Grade level - 3

The Bat

The bat is a small animal that looks like a mouse with wings. A bet can fly, but it is not a bird. It is a mammal which means that it gives birth to live babies. A mother bat sometimes has three or four babies. She takes them from place to place till they are able to fly on their own.

Bats can see in the daytime, but at night they use their hearing to get around. A bat can make a sound that only other bats can hear. These sounds hit a wall and then bounce back to the ears of the bat. Because of these sounds, bats can fly in the dark and not hit each other.

Bats like to hang on leaves or bushes in the sunlight. They like to eat insects and will hunt for them near lakes or ponds. Bats have sharp teeth and can bite when they have to.

Number of word 303 Number of cloze items 36 Type of passage - animal/science Grade level - 4

The Devil of the Sea

What do you think of when you hear the word ink?

Is it something to write with? Something in a pen?

Something black? Do you know about the ink that comes from the octopus? When an octopus meets an enemy, he does not fight. He prefers to shoot out a spray of ink from a sac in his body.

While his enemy tries to fight his way out of the ink, the octopus slips away. If his enemy still wants to chase him, he can send out different flashes of color. Now the enemy is blinded for a few minutes. By the time the enemy can see again, the octopus can change his color from red to brown or to a colorless lump of sand. No one can see him now.

What if the enemy doesn't give up? The octopus still has something left in his bag of tricks. He will jet out a stream of water and drive the enemy back.

Very few animals of the sea dare tackle the octopus.

This eight-armed monster can darken the sea, flash rainbows, change nnto a "lump of sand" and shoot out water like a rocket. It is not surprising that he is called "the devil of the sea."



18. Z.

Data: Number of words 251
Number of cloze items 38
Type of passage - historic
Grade level - 5

The "par 1066"

In the year 1066 England was invaded by a French duke named William, who became known as William the Conqueror. The language he and his men spoke was French, and the year 1066 was going to become an important date in the history of the English language.

Before the year 1056, the people who lived in England spoke a language we call Anglo-Saxon. It was a language which was related to the language of the Germans, the Danes, the Norwegians, and the Swedes. When the French conquerors took control of England they conducted all government business in French. French became the language of the court (where the kings and nobles gathered). For a while two languages were spoken in England—the native English people spoke English while the upper class or government people used French. Soon many French words were entering the English language—they were being "borrowed."

French. Soon many French words were entering the English language—they were being "borrowed."

After about a hundred years, the French conquerors were driven out of England, and the English rulers returned.

But the words which the English had "borrowed" remained

in the English language. For example, many a cook became a chef, who added to his vocabulary such words as boil, broil, fry, loast, and saute. When the cow was brought to the table it became beef, the pig became pork, and calf became yeal. Hundreds of other French words also entered the English language during this period, so you might want to remember the year 1066--an important date in the history of your vocabulary.

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Analyzing the Alteration

What clearly emerges from a scan of Tom's reading are patterns of responses to text which either maintain or alter the author's intention. In the story "The Rabbit and the Cat," Tom read

"Where are you going this Sunday? (original: "on this sunny day")
We might speculate that he omitted "on" because he had already
perceived "sunny day" as "Sunday." We might agree, too, that
this change would alter the author's intention, although we would
have to ask to what degree.

He then alters

"Will you help me?" to "Well, you can help me."

The substance is not significantly changed with this alteration, but he then substitutes "I" for "we," a lexical change which partially alters the semantic intent. Notice, too, that Tom makes no correction for these alterations because the story continues to have "meaning." When he misreads "carrots" for "cartoons" there is correction because of the senselessness which occurs. Similarly, there is correction as he attempts "don't wait carrots" (orig. "I don't want carrots"). The final alteration of "loud" for "little" remains & rammatical, but alters the meaning, and Tom, therefore, gets no feedback to correct.

Were we to use a "word error" count Tom would have made about 9 or 10 errors, and we might conclude that this passage was too difficult for him. With alteration to meaning as the criteria



for judgmer of difficulty, we might determine that three of the misreadings could be crucial to the text:

1. Original Text: sunny day Altered Text: Sunday

2. 0.T. we A.T. I

3. O.T. little A.T. loud

Tom's correction of other misreadings in _cate that he was making sense of the text, and that he could be successful at a somewhat higher level. As we analyze the next story, "The Twins" (grade level 2.0-2.5), it again becomes clear that alteration to meaning must be the criteria for assessment. Below are the examples of the original text (0.T.) and Tom's altered text (A.T.), with a commentary on the degree of alteration to meaning (high, moderate, low or little).

O.T.	A.T.	Degree of Alteration
They always played with the same friends	Theyplayed with the same friends	This omission would cause <u>little</u> change.
I wish we didn't always do the same thing	I wish we didn't always do it the same	Tom appeared to process the information and orally respond with synonymous meaning. Little change.
One was a letter to Jim	One was addressed to Jim	Although "a letter" and "addressed" are different lexical items, the author's intent was retained. Again there is little change.

In the third level passage, Tom maintained the meaning throughout the text, reorganizing one section of the narrative stylistically. Again he has obviously processed the graphic display, emerging with what Chomsky calls the "deep structure rules" which allow us to recognize the reversibility of active/passive constructions:

- O.T. A bat can make a sound that only other bats can hear.
- A.T. A bat makes a sound that can only be heard by other bats.

It becomes apparent that were we to evaluate this child's reading on the basis of "word errors" we would lose valuable information about his instructional needs, and possibly assign him to "easy" reading and "word attack" exercises. Notice, too, that Tom has made fewer alterations at the "grade 3" level than at grade 2, although the story of "The Bat" is more conceptually loaded and more complex syntactically.

At the fourth grade level, Tom's misreadings indicate that the predominant alterations, while appearing lexical, are, in fact, syntactic:

- 1. Do you know about the ink that comes from the octopus?

 (Tom has pluralized the noun "octopus" which requires omission of the article "the.")
- 2. He prefers to shoot out a spray of ink.

(The word "out" is merely redundant)

3. While his enemy tries to fight . . .
(The use of "the" is a more frequently used form)



4. . . . the octopus can change his color from red (to) brown or to a colorless lump of sand.

(Here Tom made several grammatical alterations which changed the original intent, yet sought to make the sentence sensible).

At the fifth grade level ("The Year 1056") we have an opportunity to fully analyze Tom's reading needs, for at this level we begin to gain insights into the nature of his misreadings. The question becomes not "What grade level does he read at?" but "What kind of instruction does he need at the grade level or levels where his alterations change the author's intent?" Since much emphasis has traditionally been given to the lexicon (word attack) in reading, it would appear productive to determine which single lexical items Tom altered because of inadequate "word attack" skills. The following were noted:

conqueror (condodor, conquestedore)
Anglo-Saxon (al . . . sand)
Danes (dens)
Swedes (Sweden)
gathered (ga . . .)
native (natural)
remained (rem . . .)
borrowed (bowered)

These eight words caused Tom difficulty, although "conquestedore" is strangely reminiscent of the Spanish "conquistador" and "Swedes" are scarcely removed from "Sweden." However, even if we accept all these misreadings as of equal severity, the percentage of lexical alteration is about 3% (8 items out of 251). The question arises, therefore, . whether Tom's apparent difficulty

with the passage resulted from "word attack." Since 3% appears to be a fairly insubstantial amount, and since many good readers often mispronounce proper names (especially those who read Russian novels!), we might have to dismiss the notion that the problem is in the words. We can also note here that Tom accurately read many words of similar complexity to those which he altered. Of great significance is that Tom could not read the year "1066," calling it 166, after a brief hesitation. Beyond the change in the year (166) and the substitution of "conqueror," he made no substantial alteration to the first paragraph. Only when he faced numerous proper names did he seriously falter, a faltering which triggered off numerous syntactic insertions and deletions:

It was a language which was related to the language of the Germans, the Danes, the Norwegians, and the Swedes,

Does Tom lack word attack skills or are the concepts in the narrative (the semantic element) too far removed from Tom's experiential background, at least in this area? Is Tom unable to read fifth grade material because of the lexicon or because of unfamiliarity with the material contained in this level?

Implications for the Poor Reader

Unless alterations from the original text are analyzed from the perspective of potential loss of meaning, many children will be faced with the discouraging prospect of receiving instruction from material far below their conceptual needs. George Spache



who has written extensively on the problems of poor readers, emphasizes that "no matter how badly retarded the reader is in reading skill we cannot employ materials obviously written for younger persons" (Spache, 1974, p. 19). Furthermore, unless we examine the misreadings in relationship to the total language complex, the emphasis on instruction is very likely to continue to center on words. While we believe that the child must certainly have an understanding of the alphabetic basis of reading and an everwidening knowledge of the orthographic rules which allow for expansion into the more difficult lexicon, psycholinguistic research indicates that many poor readers do recognize a vast quantity of "sight" words. And often, if they have spent several years in remedial classes, they know (or can recite) a myriad of orthographic rules.

Spache has further stated that "children's interests are the most important single influence upon their attitudes toward reading" (1974, p. 1), and cautions teachers against preventing children from reading certain material "merely because they are not ready for it . . ." (p. 7). Of course, we know that children need guidance and instruction, and the poor reader is especially need-ful. If the problem is "not in the words" where is it?

Referring to Tom's reading again, we can almost predict that had Tom been given sufficient background about 1066, (something we call an "advance organizer") Tom's misreadings would have



dropped considerably. Certainly we have evidence of his word knowledge. It is only when he loses control of the larger meaning, does he omit, insert, and substitute.

It is paramount, we believe, that poor readers, especially those beyond the second grade, be given insight into the nature of their reading problems. They, too, believe that reading is hard because they "don't know the words." If they can hear their reading alterations (through tape playback, for example) or even see the markings on their oral reading worksheet, they, too, will realize that "it's not the words, but the sense." A fifth grade youngster had read a sentence from a story as

"They waved with a cherry. Goodbye."

He then heard himself on tape, following the written text at the same time. As the tape came to the sentence cited, he immediately shut it off, and exclaimed, "They waved with a cherry? How could I be so stupid . . . now it makes sense. They waved with a cheery goodbye!"

The child must become aware that the sense of the story lies in the <u>organization</u> of the words rather than in the individual words. Beyond the rudimentary stages of learning to read, the reader is faced with the task of rapidly grasping the author's intent, and his failure to grasp this intent causes syntactic and semantic breakdown. As stated by Kenneth Goodman

The ability to read any selection is a function of the semantic background one brings to it. Without substantial meaning input, effective reading is not possible (1974, p. 25).



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